IN THE CLAIMS

1. (currently amended) Video coding method of exploiting temporal redundancy between successive frames in a video sequence, comprising the steps wherein a reference frame, called an I-frame, is first approximated by a collection of basis functions, called atoms, and wherein either the atoms are quantized, entropy coded, and sent to a decoder or [[the]] an original I-frame is encoded and transmitted to the decoder using [[any]] a frame codec, and wherein following predicted frames, called P-frames, are approximated by geometric transformations of the atoms describing [[the]] a previous frame, wherein the geometric transformations include translations, anisotropic dilations, and rotations, and are applied to a generating mother function g(x,y) by means of the following change of variables:

$$g_\gamma(x,y) = \frac{1}{\sqrt{a_1 a_2}} g(x_n, y_n), where$$
$$x_n = \frac{\cos\vartheta(x-b_1) - \sin\vartheta(y-b_2)}{a_1}$$
$$y_n = \frac{\sin\vartheta(x-b_1) - \cos\vartheta(y-b_2)}{a_2}$$

and wherein [[the]] parameters of the geometric transformation are quantized, entropy coded, and sent to [[a]] the decoder in order to reconstruct the predicted frames.

2. (canceled)

3. (previously presented) Video coding method according to claim 1, wherein the collection of atoms is a decomposition of the I-frame obtained using a Matching Pursuit algorithm.

4. (currently amended) Video coding method according to claim 1, wherein [[the]] parameters and coefficients of the atoms are quantized and entropy coded.

5. (previously presented) Video coding method according to claim 4, wherein the quantization of the parameters and the coefficients vary across time, and the variation is controlled by a rate control unit.

6. (currently amended) Video coding method according to claim 1, ~~wherein the method is used together with~~ further comprising using a residual frame based texture codec that encodes [[the]] differences between [[the]] original frames and the [[ones]] frames reconstructed using [[the]] compensated atoms.

7 (currently amended) Video coding method according to claim 1, wherein the atoms of the I-frame are computed from [[the]] quantized frames at [[the]] an encoder and the decoder and are not transmitted.

8. (currently amended) Video coding method according to claim 1, wherein the atoms are re-computed after each quantized frame at [[the]] an encoder and decoder and replace [[the]] a previous prediction.

9. (canceled)

10. (currently amended) Video coding method according to ~~claim 9~~ claim 1, wherein the generating mother function is of the following form:

$$g(x,y) = (1-x^2)\exp\left(-\frac{x^2+y^2}{2}\right)$$

11. (currently amended) Video coding method according to claim 1, wherein the I-frame is approximated by a linear combination of N atoms $g_{\gamma n}(x,y)$:

$$I(x,y) = \sum_{n=0}^{N-1} c_n g_{\gamma n}(x,y),$$

selected in a redundant, structured library and indexed by a string of parameters γ_n representing the geometric transformations applied to [[a]] the generating mother function g(x,y) where c_n are weighting coefficients.

12. (new) A method of exploiting temporal redundancy between successive frames in a video sequence, the method comprising:

approximating a reference frame by a collection of basis functions;

quantizing the basis functions;

entropy coding the basis functions;

de-quantizing the basis functions;

storing the de-quantized basis functions in a memory;

receiving a current frame;

modifying parameters of the basis functions stored in the memory such that the modified basis functions describe the current frame;

quantizing a difference between the parameters of the basis functions stored in the memory and parameters of the modified basis functions;

entropy coding the difference between the parameters of the basis functions stored in the memory and parameters of the modified basis functions; and

reconstructing the current frame using a decoder.

13. (new) A method according to Claim 12, further comprising:

de-quantizing the quantized difference between the parameters of the basis functions stored in the memory and parameters of the modified basis functions; and

storing the de-quantized difference between the parameters of the basis functions stored in the memory and parameters of the modified basis functions enabling a reconstruction of basis functions similar to basis functions reconstructed at the decoder.

14. (new) A method of exploiting temporal redundancy between successive frames in a video sequence, the method comprising:

encoding a reference frame with a frame coder;

decoding the reference frame using a frame codec;

estimating basis functions from the decoded reference frame;

storing the basis functions in a memory;

receiving a current frame;

modifying parameters of the basis functions stored in the memory such that the modified basis functions describe the current frame;

quantizing a difference between the parameters of the basis functions stored in the memory and parameters of the modified basis functions;

entropy coding the difference between the parameters of the basis functions stored in the memory and parameters of the modified basis functions; and

reconstructing the current frame using the decoder.

15. (new) A method according to Claim 14, further comprising:

de-quantizing the quantized difference between the parameters of the basis functions stored in the memory and parameters of the modified basis functions; and

storing the de-quantized difference between the parameters of the basis functions stored in the memory and parameters of the modified basis functions, enabling a reconstruction of basis functions similar to basis functions reconstructed at the decoder.